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United States of America
Proposals for the Work of the Conference
Amend Resolution 722 Agenda Item 2 to add an item
and to delete Agenda Item 3.5

Proposals to amend Agenda Items 2 and 3.5 of Resolution 722 so that WRC-02/03 will consider allocations to feeder links near 1.4 GHz for non-GSO MSS systems with service links below 1 Ghz.

Background

Resolution 127, adopted at WRC-97, resolved that studies will be carried out as a matter of urgency on the operational and technical measures required:

i. to facilitate sharing between feeder links for non-GEO MSS systems and existing and currently planned services in portions of the band 1390-1400 MHz (Earth-to-space) and 1427-1432 MHz (space-to-Earth); and

ii. to protect passive services in the band 1400-1427 MHz from unwanted emissions from feeder links for non-GEO MSS systems;

and invited WRC-2000 or a future competent conference to consider, on the basis of completion of the above mentioned studies, additional allocations for feeder links on a worldwide basis for non-GEO MSS systems with service links below 1 GHz.

The sense of urgency voiced explicitly in its own Res. 127 notwithstanding, WRC-97 did not recommend for inclusion in the preliminary agenda for WRC-2000 consideration of studies or additional allocations for feeder links to non-GEO MSS around 1.4 GHz. In fact, the agenda for WRC-2000 does not include this item.

The only item that WRC-97 did recommend for the preliminary agenda of WRC-02/03 related to additional allocations on a worldwide basis to non-GEO MSS for feeder links around 1.4 GHz, was agenda item 3.5. But that item only proposed *consideration of the results of studies* [of operational and sharing measures] *with a view to considering the additional allocations themselves at a "future conference*," that is one beyond WRC-02/03.

The rationale for including consideration of allocations to MSS feeder links near 1.4 GHz in the agenda of WRC-02/03 is that some of the studies referred to in Res. 127, and in the preliminary agenda for WRC-02/03, have been completed, and others are planned for completion prior to the convening of WRC-02/03. Therefore, WRC-02/03 will have before it the technical and sharing measures, and sharing and compatibility studies that would enable it to consider additional allocations around 1.4 GHz to non-GSO MSS for feederlinks.

The studies performed to date indicate that out-of-band emissions from MSS feeder links at 1390-1393 MHz (up), and 1432-1435 MHz (down) into the 1400-1427 MHz band (which is allocated on a primary basis exclusively to sensitive science services), can be reduced through the use of highly efficient

modulation methods such as GMSK, and through careful design which will keep intermodulation products out of that neighboring band.

Those studies already have a certain measure of acceptance from the science services themselves. The current or remaining concerns of these services -- Radio Astronomy, Earth exploration-satellite (passive), and Space Research (passive) -- are whether the results indicated by theory and preliminary measurement and testing can be achieved throughout the life of operational spacecraft. It is these latter tests, among others, that will be available before WRC-02/03 convenes.

It is essential to recognize that the only feasible way that the subject of additional allocations to non-GEO MSS for feederlinks can be put on the agenda of WRC-02/03 is for WRC-2000 to include such an item in its preliminary agenda for WRC-02/03

If the additional tests and measurements are persuasive, but the item was not previously put on the agenda of WRC-02/03, then the Conference will not be able to make those allocations, no matter how worthy, how desirable, or how necessary they are deemed at that time.

Of course, it is possible that the additional tests and measurements that will be conducted between now and the convening of WRC-02/03 will not be persuasive enough to assure the conference that the services will be compatible and that unacceptable interference will not occur, in which case WRC-02/03 would not, in its good judgment actually make any such allocations.

In other words, putting the item on the preliminary agenda of WRC-02/03 is "fail safe." If the item is on the agenda and the tests are not reassuring and persuasive by conference time, the Conference, although it would be competent to make the allocations, would obviously not do so. However, if the item is on the agenda, and the tests are persuasive and convincing, and the urgent need for additional spectrum still exists, and all the other requisite conditions are satisfied, then WRC-02/03 could make such an allocation.

Preliminary U.S. View

This proposal is consistent with the current Preliminary View of the U.S.: It is anticipated that stidies will be sufficiently advanced or completed, prior to WRC-2000, so that the U.S. may be in a position to request modification to agenda items 3 and 3.5 of WRC-02/03. These modifications could be to ask for consideration of the allocations at WRC-02/03 and to not defer consideration to a future Conference.

Supporting Information

Information on the following subjects can be found in Document IWG/27: substantiating the need of non-GSO MSS systems for additional spectrum; the technical factors which make frequencies above 1 GHz preferable for feeder links; the feasibility of sharing frequencies above 1GHz with terrestrial services; and the fact that using frequencies above 1 GHz for feeder links reduces the pressure for use of frequencies below 1 GHz, which are in great demand for other mobile services, as well as for non-GSO MSS service links for which they are technically better suited. A detailed discussion of the compatibility of feeder links around 1.4 GHz with science services in a nearby band can be found in ITU-R Document USWP-8D/1.

Proposals Under Resolution 722, Agenda Item 2

USA/x/1: Amend Agenda Item 2 to add a new item:

2. On the basis of proposals from administrations and the report of the Conference Preparatory Meeting, and taking account of the results of WRC-2000, to consider and take appropriate action in respect of the following topics….

2.xx allocations on worldwide basis for feeder links around 1.4 GHz to non-geostationary mobile-satellite services with service links operating below 1 GHz, taking into account the results of ITU-R studies conducted in response to Resolution 127;

Reason: As confirmed by the Reports of the CPM to WRC-95 and WRC-97, additional allocations will be needed on a world-wide basis on or before the year 2002 for feeder links to non-geostationary mobile-satellite systems with service links below 1 GHz. Spectrum just above 1 GHz is particularly well suited for such feeder links for several reasons: feederlink stations employing high-gain, tracking antennas facilitate sharing with the fixed and mobile services; allocation of frequencies above 1 GHz reduces the requirement for allocations in the much more crowded spectrum below 1 GHz.

Proposals Under Agenda Item 3

USA/x/2: Amend Agenda Item 3 by deleting Item 3.5:

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3. to consider the results of the studies related to the following with a view to considering them for inclusion in the agendas of future conferences:…. ~~3.5 allocations on worldwide basis for feeder links around 1.4 GHz to non-geostationary mobile-satellite services with service links operating below 1 GHz, taking into account the results of ITU-R studies conducted in response to Resolution 127;~~

Reason: Consequential to the adoption of Agenda Item USA/x/1.